

REMARKS

Claims 1-4 and 6-18 are all of the claims currently pending in this application after entry of the foregoing amendments. Claim 5 was previously withdrawn from consideration, and subsequently cancelled. Claims 14-18 are newly added via this Amendment.

STATUS OF CLAIMS:

Claims 1, 4, 6-9, 11 and 13 are rejected, and the Examiner objects to claims 2, 3, 10 and 12.

DRAWINGS:

Pursuant to the Examiner's objection to the drawings, Applicants submit herewith a Request for Approval of Proposed Drawing Corrections whereby element "17a" is changed to --16a-- in Fig. 2C. In view of the Examiner's disapproval of the prior Request for Approval of Proposed Drawing Corrections submitted September 30, 2002, those changes are incorporated into the present Request for Approval of Proposed Drawing Corrections. The Examiner is respectfully requested to approve the changes in due course.

CLAIM OBJECTIONS:

In order to overcome the Examiner's objection to claim 12 because of the term "voltage application means" in lines 6 and 10, Applicants hereby amend the same to recite "first" voltage application means so as to avoid confusion with the "control voltage application means." Applicants respectfully submit that this change was made for clarification of language and not because of prior art.

35 U.S.C. §102:

- Claims 1, 4, 7, 8, 11 and 13 are rejected under 35 U.S.C. §102(b) as being anticipated by Tsuji et al. (U.S. Patent No. 5,196,702 [hereinafter “Tsuji”]).
- Claims 1, 6-9, 11 and 13 are rejected under 35 U.S.C. §102(b) as being anticipated by Imai (EP 0 898 421).

In regard to Tsuji, the Examiner has maintained the same position as that set forth in the Office Action dated April 30, 2002. Although Applicants traversed this rejection in the Amendment filed on September 30, 2002, the Examiner has not provided any further explanation of his position. It appears that the Examiner is asserting that the layer 105 of Tsuji contains a conductive member. However, claim 1 is hereby amended to overcome the rejection in light of Imai. As set forth hereinbelow, Applicants respectfully submit that the amendment also overcomes the rejection based on Tsuji.

With reference to Fig. 17 (by means of example and not by limitation), a second electrode layer 25 includes both an electrode 26, which generates pairs of charges in response to the irradiation of the electromagnetic wave for reading, and a sub-electrode 27 (a first conductive member), which causes no generation of pairs of charges for taking out a signal when the electromagnetic wave for reading is irradiated. Support for this is given in the portion from page 56, line 25, to page 58, line 3, of the instant specification. Applicants respectfully submit that it is self-evident, from the overall disclosure of the specification to one skilled in the art, that the electrode 26 generates pairs of charges in response to the irradiation of the electromagnetic wave for reading. The electrode 26 of the present invention is similar to a transparent strip electrode of Tsuji. However, Tsuji is silent about the provision of the electrode which causes no generation of pairs of charges for taking out a signal when the electromagnetic wave for reading is

irradiated, nor does it disclose the provision of the two types of electrodes (one generating pairs of charges and the other causing no generation of pairs of charges) in an electrode layer. Thus, Tsuji and Imai fail to disclose the features of claim 1.

Consequently, claim 1 cannot be anticipated by either Tsuji or Imai, and the rejections of claim 1 under 35 U.S.C. § 102(b) should be withdrawn. Dependent claims 4, 6-9, 11 and 13 also are not anticipated by the applied references, at least by virtue of their dependency on independent claim 1.

35 U.S.C. §103:

- Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Tsuji in view of Kempfer (U.S. Patent No. 4,535,468).

Kempfer is relied on for an alleged teaching of a charge transporting layer that acts roughly as an insulator for latent image charges and roughly as a conductor for charges opposite in polarity to the latent image charges. Applicants respectfully submit that Kempfer fails to make up for the deficient teachings of Tsuji in regard to amended claim 1, and that such deficiencies are not obvious in light of Kempfer. Thus, claim 6 is patentable over Tsuji in light of Kempfer, at least by virtue of it depending on claim 1, and the rejection thereof should be withdrawn.

NEW CLAIMS:

To obtain more varied protection for the invention, new claim 14 is added to recite a charge transport layer, wherein the first conductive member is disposed proximate the charge transport layer.

New claims 15-18 are presented in order to overcome the objection to claims 2, 3, 10 and 12 as being dependent on rejected claim 1.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. SERIAL NO. 09/539,412

ART UNIT 2878
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ALLOWABLE SUBJECT MATTER:

The Examiner has indicated that claims 2, 3, 10 and 12 would be allowable if rewritten in independent form, including the limitations of claim 1. Currently, these claims are objected to as being dependent on rejected claim 1. As indicated above, these claims are hereby respectively rewritten in independent form as new claims 15-18.

In view of the preceding amendments and remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If there any points remaining in issue that the Examiner feels may be best resolved through a personal or telephonic interview, he is kindly requested to contact the undersigned attorney at the local telephone number listed below.

The USPTO is directed and authorized to charge all required fees (except the Issue Fee and/or the Publication Fee) to our Deposit Account No. 19-4880. Please also credit any overpayment to said Deposit Account.

Respectfully submitted,


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WASHINGTON OFFICE



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PATENT TRADEMARK OFFICE

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) A radiation solid-state detector which has a charge storing section for storing the charges of the quantity corresponding to the dose of the radiation which has been projected, and records radiation image information as a static latent image in said charge storing section,

wherein a first electrode layer having permeability to radiation for recording or light emitted by excitation on the radiation,

a photoconductive layer for recording which exhibits conductivity when irradiated with said radiation for recording or said light,

a photoconductive layer for reading which exhibits conductivity when irradiated with an electromagnetic wave for reading, and

a second electrode layer having permeability to said electromagnetic wave for reading an electrode which generates pairs of charges for taking out a signal in response to the irradiation of the electromagnetic wave for reading, are provided in this order,

and a first conductive member, provided in the second electrode layer, for outputting an electric signal corresponding to the quantity of the latent image charges stored in said charge storing section formed between said photoconductive layer for recording and said photoconductive layer for reading is provided in said second electrode layer or between said first

electrode layer and said second electrode layer, said first conductive member being an electrode which causes no generation of pairs of charges for taking out a signal when the electromagnetic wave for reading is irradiated.

12. (Amended) A radiation image recording device which projects radiation onto the radiation solid-state detector according to claim 1 to store the charges of the quantity corresponding to the dose of the projected radiation in the charge storing section of said radiation solid-state detector as latent image charges for recording of radiation image information as a static latent image in said charge storing section, comprising:

first voltage application means which applies a DC voltage across the first electrode layer and the second electrode layer in said radiation solid-state detector, and

control voltage application means for applying, to said first conductive member, a control voltage to adjust the electric field formed between both electrode layers by a DC voltage applied by said first voltage application means.

New claims 14-18 are added.